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Subject: Stretch the Pasture

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Stretching the pasture at both ends of the summer season will extend protein and grain feeds considerably and cut livestock feeding costs.

An appreciable increase in the total production of feed from pastures and hay lands now in use can also be obtained by grazing rotation, the use of cut-over fields for pasturage, and harvesting hay and silage crops at the proper maturity stage to conserve the maximum of the nutritive elements of these crops.

Immediate planting of emergency pasture crops for use at the end of the summer and seeding for early pasturage next spring will further extend feed supplies by providing additional weeks of good grazing.

PRACTICES THAT INCREASE FEEDING VALUE OF PASTURAGE. Good usage of pasturage will improve growth and raise carrying capacity. Rotation grazing, U. S. Department of Agriculture agronomists declare, may accomplish a 10 percent increase in grass in humid areas. Using only a small part of the pasture area at a given time provides a rest period for the other parts that results in stronger legume plant growth and thicker turf in the pasture grasses. High-producing cows grazed in this manner will show an increase in milk yield as a result of improved quality of the pasturage.

Regular mowing of permanent pastures to prevent weed growth will give pasture grasses more water and sunlight, more food from the soil. Production of pasture grasses can be increased 50 to 60 percent it is estimated, by eliminating weeds. On clean pasture livestock can get about 80 percent of the forage while on weedy pasture livestock may get as little as 50 percent because the weed growth interferes with grazing.

Irrigated pasture lands can be made to give a decided increase in production by dividing the pasture into three or more areas and grazing each area one week in rotation and irrigating in the same sequence so that each plot will have two weeks during the rotation to dry out.

Improved production will also result if grazing of pasturage is delayed in the spring until the grasses are 3 or 4 inches high. Similarly, if a growth of about 3 inches is left on the pasture in the fall, improved quality and production will result the following year.

Similarly, the year-round production from pastures will be increased if supplemental pastures are available during the dormant period in midsummer. Should there be a lack of supplemental pasture when the summer dormant stage is reached, feeding specialists advise using harvested feed to maintain dairy-herd milk yields and prevent misuse of permanent pasture.

SUMMER PLANTINGS EXTEND PASTURE. Millet and Sudan grass are good catch crops for the end of the summer pasturage. Millet grows quickly and with less moisture than some of the other pasture crops and can be planted after other crops are harvested. Millet, however, is better for cattle feed than for feeding horses. Millet also has the reputation of reducing the yield of the crop that follows it in the rotation.

Sudan grass is one of the best supplemental summer feed crops that can be grown with little rainfall. It can be planted as early in the spring as the soil is warm and until 70 or 80 days before frost is expected. Either broadcast or cultivated in rows, it is a good crop for hay, and is valuable pasture crop in the drought months. As a green feed it is relatively high in carotene, which animals convert into vitamin A, the vitamin necessary for normal animal reproduction and development of young animals.

Practically all classes of livestock find Sudan grass palatable, but care must be exercised in grazing cattle on it after severe damage by drought or other unusual weather conditions as some cases of prussic-acid poisoning have resulted in cattle from such grazing. Horses and sheep are rarely affected and hogs can also be pastured on the pasture in safety.

This grass yields from 2 to 4 tons of cured hay per acre, though irrigation will increase the yield to as much as 8 or 10 tons an acre. When grazed, an acre will carry 2 cows for as much as 3 months.

Sudan grass can also be seeded with the forage variety of soybeans for emergency hay and in warm, fertile soils will furnish forage in 40 to 45 days.

Small grains, long considered excellent supplements to permanent pasture, will have increased value if seeded, where adaptable, with lespedeza, rape and sweet clover, either for hay or pasturage.

After flood destruction or loss of crops from other causes, or when there is such a shortage of labor or machinery that row-crop land cannot be cultivated in the usual way, lands can be used for emergency pasture lands or hay crops to provide extra roughage and protein-rich pasturage. Stubble fields can also be planted to clovers, alfalfa, or annual lespedeza to provide some grazing.

Cut-over fields from early harvested hay can often be grazed in from four to six weeks after the first crops are cut. These fields will provide light grazing and contribute some supplemental protein nutrients. Rotation grazing of these fields is the most profitable practice. If cut-over acreage is not grazed, enough supplemental growth may result to justify harvesting, even though the production is small, to increase total hay supplies.

Wheat, oats, and barley stubble fields can also be used for light grazing if pasture grasses were seeded with the grain crops.

COVER AND GREEN MANURE CROPS IMPROVE SOIL, PROVIDE EARLY GRAZING. Cover crops planted to prevent soil erosion, leaching or other damage, and green manure crops planted to maintain the soil's store of organic matter that is derived chiefly from decayed plant material, have a second vital use in war-time feeding. These crops provide early pasture in the spring before permanent pasture is ready for grazing.

Grazing is likely to reduce the value of cover crops as soil-improving crops, the U. S. Department of Agriculture says. But much of the fertilizing value is returned to the land while they are being pastured.

Legume or non-legume crops can be planted for cover crops with good results. The legumes add nitrogen as well as organic matter to the soil. Non-legumes may result in a loss of nitrogen in the soil when used as green manure crops because of the large amount of plant material they provide to be decayed by bacteria that feed on nitrogen. Legumes, on the other hand, carry more than enough nitrogen for the decay bacteria and this extra supply of legume nitrogen increases the nitrogen supply of the soil. When planting legumes, adaption of seed to locality and need for inoculation of seed should be considered.

Of the non-legumes, oats, rye, ryegrass are particularly fast-growing cover crops and with wheat can be grown almost anywhere in the United States if seeds adapted to the planting area are used.

Among the legumes are Austrian winter peas, hairy vetch, crimson and sweet clover, and alfalfa. Austrian winter pea, the seed of which is currently plentiful, resists winter climates better than other varieties of field peas and is superior to hairy vetch in low minimum-temperature growing point. There are two varieties of hairy vetch, one of which is almost smooth. The smooth variety is preferred for planting in the South and the hairy, because of its extra-winter-hardiness, is best for planting in northern latitudes. Velvet beans are also recommended for all the Southern States.

Crimson clover is good for the northern part of the Cotton Belt, sweet clover is a most satisfactory cover crop in the Corn Belt, but both sweet clover and alfalfa require soil with plenty of lime and phosphates. Though used less for green manure crops than other legumes, red clover in the North and lespedeza in the South can also be grown with good results.

In the South and Southeast cover crops can be of tremendous value in increasing the fertility of soils that generally lie fallow during the winter and in providing a winter source of green feeds for livestock. It has been estimated that in twelve southern States as much as 18,500,000 acres of land lie fallow during the winter months.

PREPARATION FOR EARLY SPRING GRAZING. By checking all pasture lands in the summer it is easy to locate the spots where hay crops and pasture grass growth is thin and a need for liming and fertilizing early in the fall is indicated. Such conditioning of the soil will save the growth already gained and provide nourishment for new growth.

Summer is also an exceptionally good time to look over fields for thrifty stands of clovers and grasses that will make good seed. Because of the wartime needs and the volume of demand at home, seed may be short for planting and it would be wise to set aside some acreage from which to save an adequate amount of seeds for the next plantings. Usually clover, timothy, orchard grass, and similar crop seeds can be harvested in the Northern States in early summer, but harvest time for seeds will vary not only for regions and kinds of crops but for different farms. To encourage the harvesting of hay and pasture seeds Commodity Credit Corporation has authorized the making of loans on a wide variety of these seeds when stored in approved warehouses in accordance with instructions.

FERTILIZERS DECREASE FEED COSTS. Lime and other conditioners that correct soil deficiencies and fertilizers that increase soil fertility pay more profit per dollar spent than any method of increasing feed supplies.

Good soil is of first importance in expanding feed production. Extra labor, machinery, and extra seed will avail little if the land has been weakened year after year by the continued absorption of its vital elements by the crops that are harvested from it.

Increasing the fertility of the land will increase the feeding value of the hay, pasture, and forage crops grown on it in total digestible nutrients and in protein, with a consequent possible decrease in the amount of concentrates needed in feeding rations and the amount of barn feeding.

Overcropping, erosion, a natural lack of fertility may be contributing causes to impoverished pastures and low yield from hay and forage lands. The growing season is the best time to take inventory of production indications, and discover what factors are preventing maximum returns from the land.

Soil needs may be determined, in part, by having samples analyzed and tested. Many States have facilities for performing this service. Much of the value of this work will depend upon the care used in taking the soil samples.

One simple method recommended by the Department of Agriculture is to select three average spots in each 20 acres, draw a rough circle about 100 feet in diameter and within this circle take one-half a pint of soil from the top 3 inches in 15 places. Mix these samples thoroughly in a clean bucket but avoid using the hands to mix. Prepare samples from other circles in the same manner and then fill a half pint carton or glass jar with mixed samples from each of the three locations. Prepare samples from the subsoil at a depth of from 7 to 20 inches in a similar manner.

If crops of the "lime loving legumes", such as alfalfa and sweet clover are planned, it is best to apply the lime six months to a year in advance of the planting, but with the other legumes, lime can be applied with phosphates and other fertilizers. Barnyard manure should preferably be worked into the soil as soon as spread to avoid loss of ammonia, and should not be left piled in the fields even for a day. But if thinly and evenly distributed, barnyard manure can be used as a top dressing or mulch after seeding, as protective covering for the seedlings and to hold moisture.

COMPARATIVE IMPORTANCE OF PASTURE. Beef and lamb satisfactory to meet demands of most meat-eating people, the Department of Agriculture says, can be produced on grass alone. With pasture, milk production can be increased with greater economy in the use of grain. In feeding hogs, pasture may save 15 percent of the grain ration.

Pasture costs are estimated as only 10 to 20 percent of total annual cost of feeding. One acre of pasture requires approximately 3 hours of man labor and 3 hours of horse labor with equipment, while a typical acre of corn in its best growing regions, requires approximately 20 hours of man labor and 45 hours of horse labor with equipment. Steep and eroded land now in cultivation should be converted to profitable pasture production thus stopping labor and materials waste, and decreasing national flood damage. Under war-time conditions the most productive use of land is of paramount importance.

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Note: A more detailed discussion of pastures, forage crops, soil conservation, and soil productivity is contained in Miscellaneous Publication No. 194, "A Pasture Handbook," revised to October, 1942.

